September 27, 1952

Dear Dr. Boyd:

This summer I had the great pleasure of an extended visit by Dr. B.A.D.Stocker from the London School of Hygiene. We worked together on some problems in the genetics of flagella in Salmonella, using the technique of "genetic transduction". In the course of that work, he suggested that it would be a good thing if our phages could be correlated into your classification. I agree fully, and am writing to enlist your cooperation.

We have been using most extensively the symbiotic phage carried by S. typhimurium Lilleengen's strain 409 (type 22: Acta path Supplem. 77, 1948), and his strain 85 (type 2) for propagation and assay. I suspect that Lilleengen's entire collection must be deposited in London, but Dr. Stocker will, at any rate, have brought back our own subcultures. I would judge that PLT22 (phage from Lilleengen type 22) is one of your A types. It's range of adsorption agrees with the distribution of the XII_2 antigen, although it does not necessarily lyse every such strain. I am just about to try to extend our studies to the genetic capabilities of other phages, but before doing so it seemed appropriate to consult with you. It is quite likely that some of our other typhimurium types would correspond to your B type phage, but rather than seek to verify this, I wonder if it would not serve better to use the same cultures. I would be especially interested, to judge from the published descriptions, in typhimurium cultures 29929 (for type A) and C20 and C26 (for type B). If table V of your 1950 paper (JPB 62:501) is correct, C20 is a very remarkable phage to attack S. paratyphi A, B, and C! (The antigenic diagnosis given for the latter in the table seems to be in error; should it not be VI,VII,Vi rather than VI,XII,Vi?). This would be very useful to us as a means of bridging groups B and C.

In a previous letter, you referred to the discovery of an indicator for 1404. If your investigations with it have been accomplished, may I have it for the same purpose— to exclude apparent non-lysogenic isolates? I am sure that we are in full agreement that non-lysogenicity in Salmonella typhimurium is not only unprovable, but probably nonexistent. Does 1411 remain "ultra-pure" (in d'Herelle's sense?)

May I close with a final question? Have you ever noticed any symbiotic phages in Salmonella that would attack rough ~~mut~~ indicators? Lytic phages specific for rough are fairly prevalent, of course. McKie (Austr. J. etc. 1934) reported a number of E. coli that acted on rough gallinarum, but I am looking rather for a smooth Salmonella carrying such a phage. For my purposes, it is enough that the phage be adsorbed by rough cells. If it can be propagated on smooth as well as rough, so much the better.

By way of a pointed summary, my requests include cultures or information of:

1) S. typhimurium 29929, C20, C26 and indicator for 1404
2) Salmonellas carrying phages active on or adsorbed by rough (Smooth)

Please let me know of any opportunity for a reciprocation of your cordial favors.

Yours sincerely,